What is claimed is:

1. A projection-type optical encoder comprising:

a light emitting element,

a moving grating plate with moving transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a fixed grating plate with fixed transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a set of light receiving elements that receive light that has been emitted from the light source and has passed through the moving transmissive grating sections and the fixed transmissive grating sections, and

an origin position detecting mechanism for detecting an origin position of the moving grating plate,

wherein the origin position detecting mechanism includes a moving grating region for origin position detection that is formed on the moving grating plate, a fixed grating region for origin position detection that is formed on the fixed grating plate, and a set of light receiving elements for origin position detection that are included in the set of light receiving elements,

transmissive grating sections for origin detection and non-transmissive grating sections for origin detection that are wider than the moving transmissive grating sections and the fixed transmissive grating sections are aligned in the moving grating region and the fixed grating region, respectively,

the set of light receiving elements for origin position detection includes a set of Z phase light receiving elements that generate a Z phase signal and a set of Z' phase light receiving elements that generate a Z' phase signal that differs in phase to the Z phase signal,

an alignment pattern of grating sections in the moving grating region and the fixed grating region and an alignment pattern of the set of Z phase light receiving elements and the set of Z' phase light receiving elements are determined so that one

peak respectively appears in amounts of light received by the set of Z phase light receiving elements and the set of Z' phase light receiving elements when the moving grating plate moves, and

the origin position of the moving grating plate is detected based on the Z phase signal and the Z' phase signal.

2. A projection-type optical encoder comprising:

a light emitting element,

a moving grating plate with moving transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a fixed grating plate with fixed transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a set of light receiving elements that receive light that has been emitted from the light source and has passed through the moving transmissive grating sections and the fixed transmissive grating sections, and

an origin position detecting mechanism for detecting an origin position of the moving grating plate,

wherein the origin position detecting mechanism includes a moving grating region for origin position detection that is formed on the moving grating plate, a fixed grating region for origin position detection that is formed on the fixed grating plate, and a set of light receiving elements for origin position detection that are included in the set of light receiving elements,

transmissive grating sections for origin detection and non-transmissive grating sections for origin detection that are wider than the moving transmissive grating sections and the fixed transmissive grating sections are aligned in the moving grating region and the fixed grating region, respectively, in accordance with an M-series arrangement pattern,

the set of light receiving elements for origin position detection includes a set of

Z phase light receiving elements that generate a Z phase signal and a set of Z' phase light receiving elements that generate a Z' phase signal that differs in phase to the Z phase signal, the set of Z phase light receiving elements being aligned in accordance with the M-series arrangement pattern, and

the origin position of the moving grating plate is detected based on the Z phase signal and the Z' phase signal.

3. An optical encoder according to Claim 1 or 2,

wherein the set of light receiving elements includes a set of inverse Z phase light receiving elements that generate an inverse Z phase signal that is an inverse signal of the Z phase signal and a set of inverse Z' phase light receiving elements that generate an inverse Z' phase signal that is an inverse signal of the Z' phase signal, and

the origin position of the moving grating plate is detected based on a differential signal of the Z phase signal and the inverse Z phase signal and a differential signal of the Z' phase signal and the inverse Z' phase signal.

4. A reflective-type optical encoder comprising:

a light emitting element,

a moving grating plate with moving reflective grating sections of a predetermined width that are aligned at a fixed pitch,

a fixed grating plate with fixed transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a set of light receiving elements that receive light that has been emitted from the light source, reflected by the moving reflective grating sections, and has passed through the fixed transmissive grating sections, and

an origin position detecting mechanism for detecting an origin position of the moving grating plate,

wherein the origin position detecting mechanism includes a moving grating

region for origin position detection that is formed on the moving grating plate, a fixed grating region for origin position detection that is formed on the fixed grating plate, and a set of light receiving elements for origin position detection that are included in the set of light receiving elements,

reflective grating sections for origin detection and non-reflective grating sections for origin detection that are wider than the moving reflective grating sections and the fixed transmissive grating sections are aligned in the moving grating region and the fixed grating region respectively,

transmissive grating sections for origin detection and non-transmissive grating sections for origin detection that are wider than the moving reflective grating sections and the fixed transmissive grating sections are aligned in the fixed grating region,

the set of light receiving elements for origin position detection includes a set of Z phase light receiving elements that generate a Z phase signal and a set of Z' phase light receiving elements that generate a Z' phase signal that differs in phase to the Z phase signal,

an alignment pattern of grating sections in the moving grating region and the fixed grating region and an alignment pattern of the set of Z phase light receiving elements and the set of Z' phase light receiving elements are determined so that one peak respectively appears in each amount of light received by the set of Z phase light receiving elements and the set of Z' phase light receiving elements when the moving grating plate moves, and

the origin position of the moving grating plate is detected based on the Z phase signal and the Z' phase signal.

5. A reflective-type optical encoder comprising:

a light emitting element,

a moving grating plate with moving reflective grating sections of a predetermined width that are aligned at a fixed pitch,

a fixed grating plate with fixed transmissive grating sections of a predetermined width that are aligned at a fixed pitch,

a set of light receiving elements that receive light that has been emitted from the light source, has been reflected by the moving reflective grating sections, and has passed through the fixed transmissive grating sections, and

an origin position detecting mechanism for detecting an origin position of the moving grating plate,

wherein the origin position detecting mechanism includes a moving grating region for origin position detection that is formed on the moving grating plate, a fixed grating region for origin position detection that is formed on the fixed grating plate, and a set of light receiving elements for origin position detection that are included in the set of light receiving elements,

reflective grating sections for origin detection and non-reflective grating sections for origin detection that are wider than the moving reflective grating sections and the fixed transmissive grating sections are aligned in the moving grating region and the fixed grating region, respectively, in accordance with an M-series arrangement pattern,

transmissive grating sections for origin detection and non-transmissive grating sections for origin detection that are wider than the moving reflective grating sections and the fixed transmissive grating sections are aligned in the fixed grating region in accordance with the M-series arrangement pattern,

the set of light receiving elements for origin position detection includes a set of Z phase light receiving elements that generate a Z phase signal and a set of Z' phase light receiving elements that generate a Z' phase signal that differs in phase to the Z phase signal, the set of Z phase light receiving elements being aligned in accordance with the M-series arrangement pattern, and

the origin position of the moving grating plate is detected based on the Z phase signal and the Z' phase signal.

6. An optical encoder according to Claim 4 or 5,

wherein the set of light receiving elements includes a set of inverse Z phase light receiving elements that generate an inverse Z phase signal that is an inverse signal of the Z phase signal and a set of inverse Z' phase light receiving elements that generate an inverse Z' phase signal that is an inverse signal of the Z' phase signal, and

the origin position of the moving grating plate is detected based on a differential signal of the Z phase signal and the inverse Z phase signal and a differential signal of the Z' phase signal and the inverse Z' phase signal.